

## ABSTRACT

A display driver apparatus with improved general applicability is capable of operating in any one of a plurality of gradient display modes. Such a display driver apparatus drives a liquid crystal panel by an MLS driving method in which the first

- 5 L (e.g., L=4) common electrodes are simultaneously selected in a first selection period and successive groups of L common electrodes are simultaneously selected in successive selection periods. 8-bit display data for each segment electrode are simultaneously read from a display data RAM, and latched on a display data latch circuit. A decoder having first and second sub-decoders decode divided upper and
- 10 lower four bits of the 8-bit display data, respectively. In a first mode, when the 8-bit display data stored in the display data RAM is for a four gradient display for each of four pixels on each segment electrode, a gradient potential is output based on an output from the first sub-decoder in a period P1, which is one of two divided periods of one horizontal scanning period. In the remaining period P2, a gradient potential
- 15 is output based on an output from the second sub-decoder. In a second mode, when the 8-bit display data stored in the display data RAM is for a two gradient display for each of eight pixels on each segment electrode, a gradient potential that is generated based on an output from the first sub-decoder is output during a first selection period. In a succeeding second selection period, a gradient potential that
- 20 is generated based on an output from the second sub-decoder is output.